

### **REMARKS**

Claims 1-21, 24-27, 37-43 are currently pending in the subject application and are presently under consideration. Claim 8 has been amended as shown on page 3 of the Reply. Claims 37-43 are allowed.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

#### **I. Objection to Claims 8**

Claim 8 is objected to because of the following informalities: the word "and" appears to be missing between "bearing" and "at least". It is respectfully requested that this objection be withdrawn for the following reasons. The subject claims have been amended to cure the minor informalities, rendering the Examiner's objection moot. Therefore, this objection should be withdrawn.

#### **II. Rejection of Claims 16 and 24 Under 35 U.S.C. §102(b)**

Claims 16 and 24 stand rejected under 35 U.S.C. §102(b) as being anticipated by Meinzer *et al.* (US 5,640,472). This rejection should be withdrawn for at least the following reasons. Meinzer *et al.* does not disclose or anticipate each and every limitation set forth in the subject claims.

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference.” Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as is contained in the...claim.” Richardson v. Suzuki Motor Co., 868 F.2d 1226, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). (emphasis added)

The claimed invention relates to systems and/or methods for determining at least one condition of a bearing by way of embedding an optical fiber therein. In particular, independent claim 16, in part, recites “at least one optical fiber at least part of which is embedded in a bearing, the at least one optical fiber having first and second ends, the first end receiving the beam of light, *the second end being flush with a contacting surface of the bearing.*” Independent claim 24 recites similar features. Meinzer *et al.* fails to disclose or suggest such novel feature of

the invention.

In the subject Office Action, the Examiner contends that Meinzer *et al.* discloses “an optical fiber (54) embedded in a bearing (10, 12), wherein the optical fiber has a first end for receiving a beam of light and a second end (161) being flush with a contacting surface of the bearing.” Applicant’s representative respectfully avers to the contrary. Meinzer *et al.* merely relates to a system for measuring gap between a stator and a rotor by determining the change in the intensity of light as it travels across the gap and gets reflected back at the rotor. Meinzer *et al.* discloses that light travels through the fiber (54) and exits from the end face (161) to be *radically projected from across the gap* (15) and is reflected off the rotor (14). Therefore, it is readily apparent that second end of the optical fiber is not flush with the contacting surface of the bearing, as disclosed in the claimed subject matter. As mentioned *supra*, there is a gap between the second end of the fiber and the rotor, and therefore the second end of the optical fiber is not flush with the rotor. Furthermore, there is no motivation within the cited references to place *an optical fiber flush with a contacting surface of a bearing* as claimed. In fact, the optical fiber of Meinzer *et al.* cannot be flush with the rotor as Meinzer *et al.*’s system is designed to measure the gap between the rotor and the stator using the change in the intensity of light that travels through the gap.

Based on at least the foregoing, Meinzer *et al.* fails to anticipate each and every element of the claimed subject matter as recited in independent claims 16 and 24. Therefore, this rejection should be withdrawn.

## **II. Rejection of Claims 1, 3-7, 14, and 17-19 Under 35 U.S.C. §103(a)**

Claims 1, 3-7, 14, and 17-19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Meinzer *et al.* as applied to claim 1 above and further in view of Mamin *et al.* (US 5,017,010). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Meinzer *et al.* and Mamin *et al.*, individually or in combination, do not disclose or suggest each and every element set forth in the subject claims.

Independent claim 1, in part, recites “at least one optical fiber embedded in a bearing, the at least one optical fiber having first and second ends, the first end receiving a beam of light from a light source and transmitting the light to the second end, the second end being flush with a contacting surface of the bearing.” As mentioned *supra*, Meinzer *et al.* fails to disclose or suggest that the second end of the optical fiber is flush with a contacting surface of the bearing. Mamin *et al.* fails to make-up for the aforementioned deficiency.

Therefore, the claimed invention as recited in claim 1 (and claims which depend there from) is not obvious over the combination of Meinzer *et al.* and Mamin *et al.* Thus, it is respectfully submitted that this rejection be withdrawn.

## **III. Allowable Subject Matter**

Claims 2, 8-13, 15, 20, 21, and 25-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

It is believed that rewriting dependent claims 2, 8-13, 15, 20, 21, and 25-27 is not necessary in view of the above discussion of independent claims 1, 16, and 24, and its patentability over Meinzer *et al.* and Mamin *et al.* Applicant’s representative respectfully requests that objection to dependent claims 2, 8-13, 15, 20, 21, and 25-27 be removed.

**CONCLUSION**

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [ALBRP178US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicant's undersigned representative at the telephone number below.

Respectfully submitted,

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